1. (currently amended) A liquid crystal display apparatus for displaying an image on a liquid crystal cell through a liquid crystal driver driven by a predetermined number of bits by inputting image data in which one pixel is represented with a plurality of sub-pixels, comprising:

memory for storing information about an offset for converting gray level coordinates of a gamma characteristic spaced evenly according to said number of bits into gray level coordinates spaced unevenly, so that the gray levels coordinates of at least one sub-pixel are between the gray level coordinates of another sub-pixel;

a gray level adjustment portion for performing a calculation on particular input sub-pixel data based on information about said offset stored in said memory; and

a pseudo-gray-level-expansion portion for applying pseudo gray level expansion to said sub-pixel data calculated by said gray level adjustment portion,

wherein said sub-pixel data to which the pseudo gray level expansion is applied by said pseudo-gray-level-expansion portion is supplied to said liquid crystal driver to display the image on said liquid crystal

cell, whereby the number of gray scale levels which can be displayed is increased.

2. (original) The liquid crystal display apparatus according to Claim 1, wherein said memory stores as a look-up table an offset value to be added to or subtracted from each gray level as a desired gamma characteristic for each sub-pixel to which gamma characteristic conversion is to be applied.

3. (original) The liquid crystal display apparatus according to Claim 2, wherein the offset value stored in said look-up table is a value represented with a higher density gray level using a larger number of bits than said number of bits of said liquid crystal driver.

4. (original) The liquid crystal display apparatus according to Claim 3, wherein said pseudo-gray-level-expansion portion converts sub-pixel data which is converted by said gray level adjustment portion and has a larger number of bits than said number of bits of said liquid crystal driver into data which has said number of bits of said liquid crystal driver and is equivalent to data having said larger number of bits.

5. (currently amended) A monochrome liquid crystal display apparatus, comprising:

a controller for outputting, from input monochrome data in which one pixel is represented with a

3

plurality of sub-pixels, a gray level set for each of said plurality of sub-pixels;

a liquid crystal cell for displaying a monochrome image; and

a liquid crystal driver for supplying a voltage to said liquid crystal cell based on a gray level of said plurality of sub-pixels output from said controller without varying the liquid crystal transmittance for a particular gray level among said plurality of sub-pixels,

wherein said controller assumes a characteristic for the particular sub-pixel subpixel in which no multiple of the brightness level of any intermediate gray level is identical to the brightness level of any intermediate gray level of another sub-pixel and selecting a gray level level which provides desired brightness from within said characteristic.

6. (original) The monochrome liquid crystal display apparatus according to Claim 5, wherein said controller uses a gray level which fills the space between coordinates of gray levels spaced evenly on a given gamma characteristic curve to output said gray level at said plurality of sub-pixels.

7. (original) The monochrome liquid crystal display apparatus according to Claim 5, wherein said controller outputs a gray level by using the given

4

gamma characteristic for a particular sub-pixel of said plurality of sub-pixels and outputs a gray level based on a different gamma characteristic for other sub-pixels.

8.   (currently amended) A controller for providing image data for each of a ~~said~~ plurality of sub-pixels to a liquid crystal driver supplying a voltage to a liquid crystal cell by inputting data in which one pixel is represented by a plurality of sub-pixels, comprising:

memory for storing information about an offset for converting gray level coordinates of a gamma characteristic spaced evenly according to the number of bits of said liquid crystal driver into gray level coordinates spaced unevenly, <u>said gray level coordinates spaced unevenly representing additional intensity levels to be displayed</u>;

a gray level adjustment portion for performing a calculation on particular sub-pixel data based on information about said offset stored in said memory; and

a pseudo-gray-level-expansion portion for applying pseudo gray level expansion to said sub-pixel data calculated by said gray level adjustment portion.

9.   (currently amended) An image conversion method for displaying an image on a liquid crystal cell by supplying a voltage through a liquid crystal driver based on input image data, comprising the steps of:

5

inputting sub-pixel data in which one pixel of said image data is represented by a plurality of sub-pixels; and

replacing said sub-pixel data with an appropriate gray level which provides a desired brightness selected from a higher density gray levels than a gray level representable with the number of bits in said liquid crystal driver in order to applying different gamma characteristics to each of said plurality of sub-pixels, so as to increase the number of intensity levels displayed.

10. (original) The image conversion method according to Claim 9, further comprising a step of pseudo-converting said sub-pixel data replaced with said appropriate gray level into data having the number of bits of said liquid crystal driver.

11. (original) The image conversion method according to Claim 9, wherein said replacing step replaces said sub-pixel data with an appropriate gray level by using a gray level filling the space between gray levels of a basic gamma characteristic set based on said number of bits.

12. (currently amended) An image conversion method, comprising the steps of:

6

inputting a plurality of pieces of sub-pixel image data, each of said pieces of sub-pixel image data comprising N bits;

assuming a second gamma characteristic corresponding to M bits (M>N) which is provided by adjusting a first gamma characteristic corresponding to N bits, at least a portion of said M bits representing gray levels between gray levels represented by said N bits;

selecting an appropriate gray level which provides desired brightness based on said second gamma characteristic for a particular piece of sub-pixel image data of said plurality of pieces of sub-pixel image data and replacing its original gray level with the selected gray level; and

providing said replaced gray level as an output value for said particular piece of sub-pixel image data.

13. (original) An image display method for displaying a monochrome image having multiple gray levels by dividing one pixel into a plurality of sub-pixels, comprising the steps of:

assuming a gamma characteristic of said sub-pixels in which no multiple of a brightness level of a intermediate gray level of said sub-pixel is identical to a brightness level of any intermediate gray level of another sub-pixel;

7

selecting an appropriate gray level providing desired brightness based on said assumed gamma characteristic; and

displaying the monochrome image based on said selected appropriate gray level.

14. (original) The image display method according to Claim 13, wherein said assumed gamma characteristic of said sub-pixels is provided by selecting an appropriate gray level which provides desired brightness from higher density gray levels between gray levels spaced evenly on a basic gamma characteristic curve set based on the number of bits of a liquid crystal driver and replacing their original gray level with the selected gray level.

15. (original) The image display method according to Claim 14, wherein one of said plurality of sub-pixels is displayed based on said basic gamma characteristic and the other sub-pixels are displayed based on the gamma characteristic provided by selecting an appropriate gray level providing desired brightness from higher density gray levels and replacing their original gray level with the selected gray level.

16. (new) The liquid crystal display apparatus according to Claim 1, wherein no multiple of a brightness level of an intermediate gray level of one sub-pixel is identical to a brightness level of any intermediate gray level of another sub-pixel.